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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,303	03/10/2004	Akiyoshi Higashiyama	018907.0111	9112

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EXAMINER

NORMAN, MARC E

ART UNIT PAPER NUMBER

3744

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,303	HIGASHIYAMA ET AL.	
	Examiner	Art Unit	
	Marc E. Norman	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/10/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 4-6, 8, 9, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Nonaka et al.

As per claims 1 and 8, Takahashi teaches an electromagnetic clutch for an air conditioning compressor comprising rotor 12, armature 14, electromagnetic coil 2 for bring the rotor into contact when energized and separating the rotor and armature when de-energized (see for example column 2, lines 8-16; column 8, lines 8-16), and a detection means (fuse 9) for detecting an excessive increase in temperature. Takahashi does not teach the fuse being provided via a separate electric circuit from that of the electromagnetic coil. Nonaka et al. teaches a similar clutch/rotor/armature/coil arrangement wherein temperature detection means 32

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are located in a separate electric circuit from that driving the electromagnetic coil (see Figure 5 regarding separate circuit connecting temperature sensor 32 to control means 34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the detection means of Nonaka et al. into the system of Takahashi or the purpose of being able to detect an abnormal temperature rise in the electromagnetic clutch at an early stage to stop the energization thereof or stop the operation of the air conditioning system as a whole (Nonaka et al., paragraph [0024]).

As per claims 2 and 9, both Takahashi and Nonaka et al. teach the temperature being due to increased slippage between the rotor and armature (see for example column 8, lines 19-21 of Takahashi).

As per claims 4 and 11, Takahashi teaches fuse 9 and Nonaka et al. teaches sensor/switch arrangement (29 and 32).

As per claims 5, 6, 12, and 13, Nonaka et al. teaches the detection means 29 being connected to the air conditioning unit and stopping the air conditioning unit when there is an excessive temperature increase (paragraph [0024], lines 4-8).

Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi and Nonaka et al. as applied to claims 1 and 8 above, and further in view of Takano et al.

As per claims 7 and 14, neither Takahashi nor Nonaka et al. discuss the clutch control arrangement being used within a hybrid compressor system. However, such hybrid compressors are common and well-known in the art. Takano et al. for example teaches a hybrid compressor that may be driven alternatively by motor 9 or engine 1. It would have been obvious to one of

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ordinary skill in the art at the time the invention was made to apply the clutch control system of Takahashi/Nonaka et al. within such a system, since the issues regarding slippage between the rotor and armature remain the same, and this is simply a particular example of protecting the system in case of excessive spillage/temperature. Further, if such high temperatures are determined, it would have been obvious to stop the motor drive in order for the purpose of protecting the system.

Allowable Subject Matter

Claims 3 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MN

A handwritten signature in black ink, appearing to read 'Marc Norman', is positioned above the printed name.

MARC NORMAN
PRIMARY EXAMINER